IMPLEMENTATION OF TEXT MINING ON SONG LYRICS FOR SONG CLASSIFICATION BASED ON EMOTION USING WEBSITE-BASED LOGISTIC REGRESSION

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Abstract	Music has become an essential medium for expressing emotions and enriching human social experiences. However, the manual interpretation of emotions in song lyrics is often inaccurate and time-consuming, especially for complex or ambiguous lyrics. This creates a need for an automated system that can improve the accuracy and efficiency of emotion classification in song lyrics. Various algorithms, such as K-Nearest Neighbor (K-NN), Naive Bayes Classifier, and Support Vector Machine (SVM), have been applied for emotion classification in song lyrics. Previous research has shown that SVM combined with Particle Swarm Optimization (PSO) achieves an accuracy of up to 90%, while K-NN with feature selection produces the highest f-measure of 66.93%, and Naive Bayes achieves an accuracy of up to 45%. In this study, the Logistic Regression algorithm, supported by the Term Frequency-Inverse Document Frequency (TF-IDF) method, is applied to enhance the accuracy of emotion classification. Evaluation results indicate that the model with figurative language transformation achieves a higher accuracy (93.52%) compared to the model without figurative language transformation (92.31%), demonstrating that figurative language contributes to the richness of emotional expression recognized by the model. This model shows competitive results and can be compared to SVM using PSO while providing better performance than K-NN and Naive Bayes. The system implementation is web-based using the Streamlit framework, allowing users to input lyrics and obtain interactive emotion predictions. This research contributes to the analysis of music emotions and offers an efficient and more accessible alternative for emotion classification in song lyrics.
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